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ABSTRACT

These five papers prepared for the annual Technical and Further Education (TAFE) Senior Executives' Conference emphasize policy implications. "Does Research Influence Policy?" (W. Hall) makes the point that some important policy decisions have been taken on nonexistent or flimsy research evidence. The next four papers are research summaries that deal with research completed, current research, and research needed in four areas. Policy implications are given and a list of references is provided. "School/TAFE Interface" (W. Hall) focuses on school/TAFE cooperation research and reports a plethora of reports, a great deal of opinion, and completed research, some of which has policy implications. "Current Research Issues in Competency-Based Assessment" (P. Thomson) addresses two issues where advocates may be most vulnerable: (1) the relationship between competency-based assessment and learning; and (2) assessors, assessor training, and recognition of prior learning. "Flexible Delivery" (D. Lundberg) proposes that education and training policy on flexible delivery should relate to fundamental research on learning or cognitive styles and applied research and development on techniques. "Non-TAFE or Private Providers" (D. Lundberg) suggests areas in which further work might be useful to inform policy development and implementation: types of courses provided to what types of students by what types of providers; operational arrangements of private providers; and quality assurance arrangements for vocational education. (YLB)

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ED 364 763

Some current research issues

Papers presented at the TAFE Senior Executives' Conference

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October 1993

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Some current research issues

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at the
TAFE Senior Executives'
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Introduction

These papers have been prepared for the annual TAFE Senior Executives' Conference and were delivered on 8th October, 1993. All topics (except the first) were selected by the Conference Planning Committee. The emphasis was to be on policy implications.

The four research summaries deal with research completed, current research and research needed. Policy implications are given and a list of references provided.

1 Does research influence policy? W Hall

It has become a truism to say that vocational training is in a constant state of flux. Consider some of the current policy issues which are having a strong impact on training systems:

- competency based training and assessment
- national framework for accreditation
- key competencies
- administrative restructuring
- national curricula
- public accountability
- articulation.

Although many of these were the outcomes of working parties, some of which commissioned 'research' studies, it is fair to claim that most are acts of faith based on dogma. Let me justify that by taking one example: key competencies.

A major assumption by key competencies proponents is that the competencies are 'generic' and hence transferable. However, a large quantity of early research was done into 'transferability', a good summary of which is provided by Stones (1966):

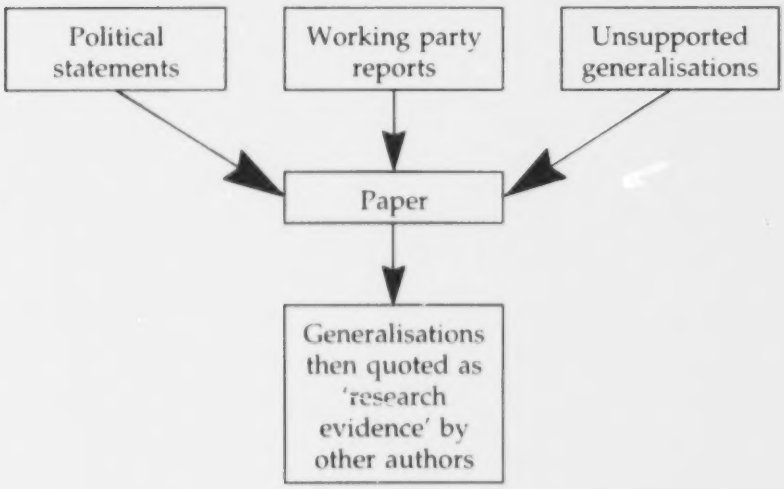
> *What is the significance of the phenomena of transfer for the teacher? First, it should be stressed that only where there is fairly close similarity between stimulus situations can transfer be expected. Thus it is futile for a teacher to expect that training in one subject will improve performance in other subjects which are dissimilar. Thus training in mathematics cannot be expected to improve children's ability to deal with other subjects because, as is sometimes suggested, it 'trains you to think logically'. Second, the teacher needs to bear in mind that teaching children one method of tackling a problem and then later introducing another method of solving the same problem which involves different and antagonistic activities from those previously learned, will make their learning of the second method much harder than if the first method had never been employed. (Page 87)*

At the very least, such summaries should encourage a cautious, limited and carefully monitored approach to key competencies before there is national implementation.

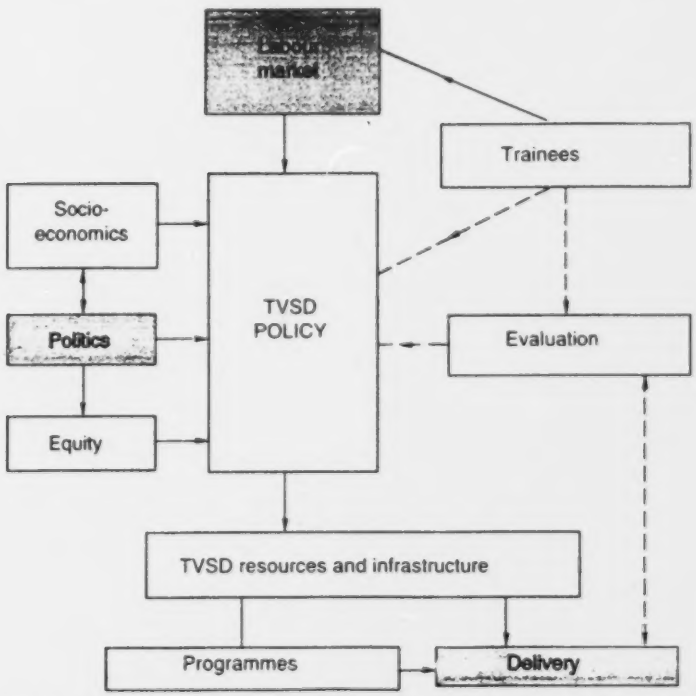
Thomson (1990) examined the recent literature from a perspective of 'problem solving and the transfer of skills'. He confirmed that vocational educators (in their writings) just assumed that skill transfer was possible. An analysis of *research* literature does not support this optimism. Indeed Resnick (1987) claims that skills acquired in one discipline do not generally transfer to other

disciplines or even to everyday life. In this she is confirming Stone's (1966) summary.

What we have then, in so many so-called research papers in vocational education, is the following structure:

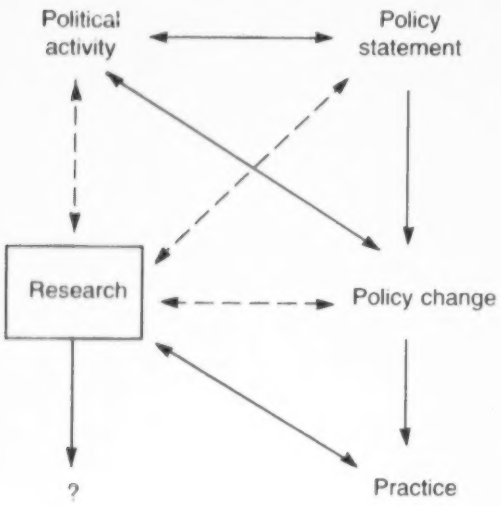


A policy discussion paper published earlier this year by the ILO (Hall, Lacson, Ushiyama, 1993) bemoans the fact that most training research ('evaluation') has little impact on policy, and justifies this statement by developing the following policy background model. (TVSD is ILO jargon for technical and vocational skill development.)



Policy background model summarising things as they are. Dotted lines show weak relationships.

Another useful model (for classification purposes) is shown below:



Dotted lines show weak relationships

This shows that although political activity, policy statement and policy change are barely effected by research (and themselves barely affect research), practice both affects and is (in varying degrees) affected by research. Some 'research', however, seems to lead nowhere, having no apparent effect on anything.

I tested the model by analysing over 40 recent publications (or research in progress) on the schools/TAFE interface. All but a few were looking at practice, with no questioning (for example) of the policy statements or ensuing policy changes. Further, a good quantity of vocational training publications in the school/TAFE interface is in the form of 'sermons', with no experimental support for sweeping statements. For example consider the statement about open learning taken from a recent policy document:

> *Open learning approaches make networks of providers more flexible. They allow for the better use of resources, improve access and allow the trainee, and industry, to have much better control over the learning.*

Really! The trouble is that people start to believe such statements, never questioning their validity. They then go on to cite the reference in later (so-called) research papers.

Just one of the (many) reasons why it is essential to have a (relatively) independent, national research organisation such as the NCVER is so that analytical research which questions such assumptions may be done.

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Research completed

The first major national review of school/TAFE co-operation research was conducted by the TAFE National Centre for Research and Development (Jones and Krzemionka, 1987). Their massive study had been preceded by State and Commonwealth reports which had urged the sectors to work cooperatively. These reports included those of the Commonwealth Schools Commission and Technical and Further Education Council (1982), the OECD (1984), and the Quality of Education Review Committee (Karmel, 1985).

The National Centre research:

- reviewed the roles of school and TAFE
- produced a national inventory of cooperative programs
- provided exemplary case studies
- established a network
- promoted school/TAFE cooperation.

It was a highly successful project which was a catalyst in the rapid expansion of cooperative ventures. Of its 19 recommendations, only six did not have direct policy implications. It led to a national conference on cooperative programs (Department of Education, Queensland, 1988) and most of the policy issues were resolved.

Many of the publications dealing with the school/TAFE interface are not research reports, but they do influence policy and (consequently) have an impact on the research which is (or more usually, should be) done. Obvious examples are the statement by the Prime Minister "A national employment and training plan for young Australians" (Keating, 1992) which introduced 'career start traineeships'; the Finn (1991) review; the Mayer (1992) Committee report; and the ESFC report produced under Carmichael's (1992) chairmanship.

The general policy thrusts of all of these reports are to make vocational training more 'flexible' (in one sense) and more 'structured' (in another sense); and hence more 'relevant'. There is a call for a merging of the school/TAFE boundaries, of the boundary separating general and vocational curricula, as well as of the boundary between education and industry/commerce.

The previous paper 'Does research influence policy?' makes the point that some important policy decisions have been taken on non-existent, or flimsy, research evidence. Indeed, as was pointed out, the research into 'transferability' is actually discouraging. This, however, did not prevent the Finn (1991) review from asserting:

Pathways

> *It is important at the post-compulsory level that young people should have access to a range of different pathways and should be able to move from one to another without 'losing ground'. The real level of skills and knowledge acquired by an individual in one educational setting should be given due recognition when that individual moves into a different setting. Young people also need to know, in advance, the implications of any significant educational choice in terms of possible employment outcomes and opportunities for further education and training. There is a range of improvements needed in policy and practice in relation to the integration of pathways through schools, TAFE and higher education.*

The research evidence indicates that very great care needs to be taken when interpreting such a statement, and policy-makers should be aware of that.

Many (if not all) of recent, major policy thrusts are an act of faith; a set of hypotheses which should be tested. In the case of the Australian Vocational Certificate (ARC), a thoroughgoing attempt by the NCVER (funded by DEET) to evaluate pilot studies is proceeding (see below), but this kind of research is the exception rather than the rule. In any case, it is doubtful if the ARC pilot projects will investigate some of the fundamental philosophical issues relating to school curricula.

One reason why CBT is being so vociferously attacked by schools is because teachers demand, but do not get, evidence of its usefulness (in its present form) to them. One carefully argued research paper by Kirkby (1993) came to the following conclusion:

> *CBT is being introduced and imposed by Commonwealth, State and Territory governments with the support of a powerful coalition of business, unions and the educational bureaucracy. It is being promoted as a necessary innovation to ensure Australia's international economic competitiveness. . . . This paper, however, concludes that CBT is fundamentally lacking in terms of its practicability, the ideology of conformity which it promotes, its failure to engage with ethical and cultural issues, and its contradiction of Aboriginal epistemologist.*
>
> *(page 8)*

In August 1992, the Economic Planning and Advisory Council (EPAC) held a seminar entitled 'Education in the 1990s: competencies, credentialism, competitiveness?' (EPAC, 1992). With one or two possible exceptions, none of the nine papers could be described as being based on 'research'. They are opinions, personal observation, general description, bits of rehashed reports, and some dogma. Mind you, the NCVER's own conferences are certainly not

free of such critical evaluation, with the number of actual research papers sometimes being quite small!

Examples of recent research on the schools/TAFE interface are those by Mageean (1991), the ACER (1991), Holden (1992), Holden and Dwyer (1992) and Champion and Smallwood (1993). Mageean (1991) looked at the curricular implications for TAFE of increased retention to Year 12 and did include a chapter on policy considerations, one of which dealt with a view that TAFE was moving from vocational education to skills training; and that the school curricula may be vocationally orientated but should not be career specific.

The policy implications of the Champion and Smallwood (1993) research were quickly caught up by New South Wales with Ministerial press releases being produced. This NCVER project investigated the perception school students have of TAFE.

Important research by the ACER (1991) was part of their longitudinal study 'Youth in transition' and dealt with the labour market relevance of high school for those Year 12 school leavers (who did not go on to higher education). There was a view that the curricula was not relevant for work; and that student/ teacher relations needed attention. There was some support for this from use of the Finn (1991) consultants.

Navaratnam's (1991) empirical model, which may be used to evaluate school/TAFE link programmes, could be a useful tool for policy-makers, administrators and teachers, with its emphasis on collecting qualitative and quantitative information.

Australia is well served statistically, with the ABS, DEET and NCVER producing regular reports. Sometimes there is a bringing together of information, as in DEET's (1971) leavers from educational institution publication.

In summary: here in Australia there is a plethora of reports, a great deal of opinion, and a bit of research, some of which has policy implications.

Current research

The NCVER evaluation of the ARC pilot projects has already been mentioned. There are 37 work-based and 68 institution-based projects. It is important that the implementation review evaluation of these projects considers the broad policy issues as well as the more detailed evaluation matters.

The NCVER has another DEET funded project to investigate the structure and networking of post-compulsory education, revisiting the school/TAFE arrangement proposed in the ESFC report on the AVC, and the apparent drift in TAFE towards a new binary system, in relation to other structural options. The project will include a

national survey of vice chancellors, TAFE directors and secondary school principals.

A further NCVER project will (among other things) look at the factors affecting the transferability of key competencies from one context to another. The validity of 'generic competencies' will be examined. (This project is being undertaken with the New Zealand Qualifications Authority.) Other NCVER projects which are indirectly related to the school/TAFE interface include:

- the assessment of underpinning knowledge and understanding in the Australian CBT system
- transferability of knowledge and understanding
- alternative educational delivery.

Local projects on school/TAFE links have recently been, or are, being, completed in most states, dealing with credit transfer, joint school/TAFE programs and recognition of prior learning.

Research needed

For the school/TAFE interface, the chart summarises the current main beliefs, a summary of past research and an indication of research in progress.

BELIEFS	RESEARCH FINDINGS	CURRENT RESEARCH
Transferability/core competencies	Do not support transferability.	NCVER, but more needed.
CBT	Do not support Australian approach.	More of a basic kind needed.
Articulation/credit transfer	Encouraging in general terms, but little competency based assessment yet.	Various local case studies.
TAFE's image	Not high with schools; very high with TAFE graduates.	NCVER (TAFE graduates).
Boundary removal	Encouraging examples so far.	NCVER.

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3 Current research issues in competency-based assessment

P Thomson

Introduction

When I'm asked what research has or is being carried out into competency-based assessment (CBA) in this country, the answer has to be - not much. Over the years there have been a few papers in the Centre's Journal - the Australian and New Zealand Journal of Vocational Education Research and just recently, VEETAC (1993a) published a collection of papers delivered at a national forum on CBA. But assessment has persistently been the poor cousin of other issues in the competency-based family.

This has placed us in the dangerous position of developing assessment policy on a very thin research base. Assessment policy emanating from bodies such as VEETAC the NTB and the competency standards body for assessors seems to be based on some overseas practices and local 'expert' opinion. I can find little Australian research which backs up the decisions the 'experts' are making.

This is why I referred to the 'dangerous position' we are in, because if the experts are proved wrong by subsequent research, the whole competency-based movement will be open to attacks that might be difficult to contain. And more attacks is something competency-based assessment can do without. For example, we already have a fight on our hands with some in higher education. The vocational education people say CBA is good because it measures the skills needed to do jobs and it is based on the standards expected in those jobs. Therefore it provides a relevance that has previously been missing.

The argument coming from higher education is that CBA is bad because their job market is so diverse. Therefore, it is impossible to achieve a close relationship between the higher education job market and competency standards. They say that for competency-based assessment to work you would need hundreds of assessments to match the hundreds of jobs at the end of, say, an arts degree - something that is beyond the resources of higher education institutions.

So here is one issue crying out for more research.

Some of you will be aware that earlier this year VEETAC sponsored two national assessment forums which, among other things, produced an outline of a CBA research agenda (VEETAC 1993a). I have provided this agenda in the form of a set of research questions as an attachment to the paper. I should point out that the questions were extracted from my notes taken at the forum and may vary a little from the official version.

The first thing to note about this list is that it consists for the most part of applied research questions. For example, there is no direct reference to the place that knowledge has in CBA. Yet this is a repeating theme in much of the literature (Berryman 1993; Eraut 1989; Mitchell et al 1990; Shepard 1991; Thomson 1991).

Nevertheless each of the questions is important and each identifies an area in which research is needed. But rather than review them all (and produce a document of daunting length) I thought it more appropriate to concentrate on issues that place us in the 'dangerous position' I refer to above. Therefore this paper will address research issues where I believe the advocates of CBA are most vulnerable. These are:

- The relationship between competency-based assessment and learning.
- Assessors, assessor training and RPL.

Relationship between competency-based assessment and learning

Research into the validity of an assessment traditionally seeks answers to questions about:

- *how well the content was covered (content validity).*
- *how well the assessment correlates with existing criteria external to the assessment (concurrent validity).*
- *how well it predicts future performance (predictive validity).*

Leaving aside the question of whether this last question - predictive validity - has any place when we are measuring performance of current competencies, there is another type of validity which has hitherto been neglected.

This has been called *consequential validity* (Linn et al 1991, Messick 1989) and concerns the intended and unintended effects of assessments on trainee learning. The current assumption is that competency-based assessment, because it is more directly related to the outcomes of the world of work, will result in training activities that are more conducive to learning. But it could be that the training is simply mimicking work and that the assessment does not go beyond what is covered in the training. Should this be the case, one likely result would be a repetitive and sterile learning environment.

Reich (1989) draws a comparison between training that prepares young people to implement instructions conscientiously and the modern production line with its pre-established sequence of routines and practices. He argues that this is not the way to go but instead we need a system which helps

> *... students gain the experience of working through problems and thus discovering underlying principles that help define and solve related problems (p 101).*

CBA must not become part of this sterile learning problem, it needs to support an education and training system which enables people to define and solve problems for themselves. We could put this another way by saying that 'assessments should serve as exemplars of good teaching practices that are not likely to distort the teaching and learning process' (Pandy 1990).

Current and future research needs

At NCVER we have just begun a project on exemplary assessment approaches which will hopefully enable more light to be shed on the relationship between assessment and teaching and learning. But this is just one of the many pieces of research that are needed in the area.

A second important assessment - learning issue that needs attention from researchers has its origins in the so called behaviourist theory of learning.

A common characteristic of competency-based assessment is the breakdown of complex tasks into checklists of performance items against which an individual is assessed. (These are derived from the performance criteria in the NTB standards or the assessment criteria in ACTRAC's curriculum documents.) The parallel with Skinner's stimulus-response theory of learning (Skinner, 1953) is obvious, as too is the danger inherent in this approach. The breakdown of tasks into ever smaller sub-tasks can result in the learner concentrating on the trivial and not understanding the larger context.

While most vocational educators in Australia are aware of the Taylorist (Taylor 1911) overtones of assessment checklists, there is not a great deal of evidence that they are abandoning the approach. While there is much talk about the use of holistic assessment, practical examples of this technique are the exception rather than the rule.

However, checklists may not be all that bad. American evidence (Bransford et al, 1986; Collins, Brown and Newman, 1989; Berryman 1993) suggests the problem is related to the context in which learning and assessment take place. If the learner can see the context for the checklist of tasks then both the learning and its assessment will be meaningful.

We need some Australian research into the existing level of decontexualised learning and assessment in our vocational education and training system. And this should be coupled with work on ways of moving CBA away from an undesirable focus on the one set of right responses and towards a problem solving approach.

Still on the relationship between learning and assessment, as a final example of the research needed, I want to look at the assumption of transfer. (This issue is also covered on the first of the papers presented.)

This is an assumption, to be found in documents from VEETAC (1992) and the NTB (1992) to name just two, that competencies acquired in one context transfer to new contexts.

The assumption of transfer ignores a substantial amount of research which says performance is highly task dependant and there is limited generalizability from task to task (Greeno, 1989; Shavelson et al, 1990; Resnick, 1987).

This last assumption on transfer truly underlies the dangerous position we are in because, while we hold to the assumption, untold problems could be accumulating in the system. Individuals may be recognised as possessing skills (through this transfer process) that they do not in fact possess. In areas such as hygiene, health and safety the consequences of getting things wrong can be life threatening.

Again the need is for assessment research. We must find out whether transfer is occurring by testing individuals in a range of contexts.

Assessors, assessor training and RPL

Recent Australian research by Whitely (1991) has highlighted the range of demands that were being made on assessors.

Assessors charged with the responsibility of verifying that a trainee is competent must be sure (beyond reasonable doubt) that the necessary standard of performance and underpinning knowledge is present. This is a challenging task. But when people are applying for the right to practise in a profession or vocation through the assessment of their prior learning, the demands placed on assessors are formidable. In these cases the individuals are not seeking the novice status of a new graduate (with its expectation that learning will continue as they gain experience in the job), but rather are seeking the right of full or expert status. The task is not impossible, but it requires a high level of assessment skills, higher possibly than those associated with the assessment of the normal trainee intake.

Policy in relation to the recognition of prior learning (RPL) and the standards required of assessors have been formulated by VEETAC (VEETAC 1991 & 1993b). However, it seems to have been determined that the role assessors are to have in the new system will be low key.

For example, there is a disturbing ambiguity in the documentation of the Competency Standards Body - Assessors and Workplace Trainers (1993) Assessors Competency Standards. Their document begins by listing the uses of the standards, including:

> *As a basis for training of assessors...*
> *For the certification of assessors. (p.iv)*

but goes on to state:

> *'Assessors' is not the title of a position but is the name given to persons acting in an assessment role. It is important to note that the assessor standards refer to an assessment role rather than an assessment occupation. (p.v)*

Furthermore, the NTB have established a national register of providers of training but not a register of assessors (NTB 1992).

To this we need to add the fact that the training programs for assessors that are now being advertised through the CSB - Assessors and Workplace Trainers vary in length between roughly two and five days. Part of the reason for such a short period is the reluctance of employers to release workers for training, but we must ask ourselves whether programs of this length provide anything more than 'survival skills'.

It can be argued that a survival skills program might be adequate if the assessor brings a high level of technical expertise in the occupational tasks being assessed. Indeed this is the situation in the apprenticeship system which many of today's experts have been through. However, expertise of a technical nature carries with it a separate range of problems. In research involving 98 experienced supervisors who were acting as assessors, Wolf and Silver (1986) found that assessor reliability varied considerably and that assessors showed a reluctance to follow written instructions. (For examples of the level of expertise required in the professions see Butler 1990 and Gonczi et al 1990.)

It needs to be stressed that if the new system produces assessors (who may not even be called assessors!) with limited skills in both technical and assessment areas, then it will be hard to become enthusiastic about the final outcome.

To date NCVER has developed programs for either basic or workplace assessors in six industry areas:

- restricted electrical licences
- wine industry
- automotive industry
- local government training authority
- State Transport Authority (SA)
- Australian Public Service.

The way we went about this work in the electrical area is described in Saunders et al (1992). Once developed these programs become the property of the relevant industry body which can seek accreditation as a provider of assessor training.

The Centre does not see itself in the business of competing with other bodies in providing training of this nature. We have invested a considerable amount of research time and expertise in getting assessor training to its current state of development and believe it is more appropriate for the industry and private training bodies to make use of our programs as they see fit.

What is lacking in all this development work are checks to see if the assessor training programs are in fact producing competent assessors. Not all programs include a process that assesses and certificates competent assessors after training, but even those that do need to be evaluated in the longer term so that we can be sure that quality assessors are continuing to be trained.

Before leaving this section I would like to draw attention to the five principles underlying the recognition of prior learning (VEETAC 1991). I believe these principles, namely:

Competence
Commitment
Access
Fairness
Support

are deserving of further scrutiny. Research is needed to tell us whether these principles are adequate, whether more are needed and whether the methods currently used for RPL do accurately assess the competencies held by an individual.

Policy Implications

Competency-based assessment has a substantial part to play in the future development of the training reform agenda. As Moran (1992) has noted:

Unless we address the issue of assessment, both on and off the job, within the next one or two years we will have unleashed powerful forces for change in vocational education and training without a means of knowing whether they work. This omission will leave TAFE and training exposed to the practiced wiles of others who resent the public investment which it now attracts.

Policy is therefore needed which will enable us to meet the anticipated challenges to the changes that are taking place. Furthermore, this policy needs to be driven to a substantial degree by research, because not only do we need to convince the critics of CBT, but also to convince the army of teachers and trainers who are expected to implement the changes. As Ashenden and Associates (1991) have pointed out, many teachers and trainers remain sceptical about the new approaches.

As well as policy ensuring that future decisions about competency-based assessment have a firm research base there is also the need for a policy on assessment responsibility. Although Australia's new vocational education system has much in common with the UK's system, one important part is very different. We do not have a tradition of national agencies such as City and Guilds, the Business and Technology Education Council and the Royal Society of Arts which have responsibility for assessing and certificating in vocational education and training.

In Australia this responsibility is (and seems likely to remain) with the individual states and territories. And while the states have established principles for mutual recognition of qualifications there is much to do before the principles can be implemented.

One promising initiative that could speed the implementation process, has been the decision by NSW TAFE to establish an 'assessment unit' to service the State's CBA needs. Policy makers could consider the possibility of establishing such units in all states and territories. The units could form an assessment network and with their officers meeting regularly, could work cooperatively to solve the multitude of problems.

Hopefully in this way we can avoid each state and territory developing its own sets of competency-based assessment instruments based on a single set of standards.

There is more than enough assessment work to go around.

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Attachment

Some research questions about competency-based assessment identified at the VEETAC National Assessment Forum (June, 1993)

1. What is the most effective way to train individuals as assessors of competency-based training?
2. How does Australia's training reform agenda influence assessment?
3. What are the most effective methods of deriving assessment instruments from competency standards?
4. What affect does involving the trainees in their own assessment have on the overall validity of the process?
5. What criteria should we use to identify 'best practice' in assessment?
6. To what extent does the context in which an assessment is carried out affect the results of trainees?
7. How can individual contributions to group work be assessed?
8. How do the various methods of ensuring cost effective assessment impact on validity?
9. How should assessment be conducted in order to demonstrate transfer of competence is occurring?
10. What forms of assessment are valid for training delivered by distance education?

4 Flexible delivery

D Lundberg

Introduction

Flexible delivery is intimately connected with open learning.

Open learning is a learner focussed approach to education and training which seeks to provide learners with the maximum practicable choice of what, how, when, and where they learn, and at what pace. It is not merely a matter of technique, but an approach encompassing administration as well as education and training (cf Johnson, R, 1990).

Following a national feasibility study (informed by five other consultancy projects) commissioned by the Australian Education council (AEC) in December 1991, AEC-MOVEET in June 1992 agreed to establish an Open Learning Technology Corporation at Science Park in Adelaide to provide services related to open learning to all education and training providers throughout Australia on a membership or fee-for-service basis.

Flexible delivery is an approach to delivery of education and training services that facilitates open learning by clients.

Flexible delivery: A national framework for implementation in TAFE in November 1992, defined flexible delivery as:

> *an approach to vocational education and training which allows for the adoption of a range of learning strategies in a variety of learning environments to cater for differences in learning styles, learning interests and needs, and variations in learning opportunities. (FDWP, 1992, 47)*

The working party has commissioned a number of consultancy studies to inform various aspects of policy and practice, and more will be commissioned.

NCVER has also commissioned several small research projects which relate to aspects of flexible delivery.

Education and training policy on flexible delivery needs to relate to fundamental research on learning or cognitive styles as well as applied research and development on the techniques of flexible delivery.

Research completed

The flexible delivery working party paper, *Flexible delivery: A national framework for implementation in TAFE*, outlined a proposed national approach, and consultancy studies commissioned by the

working party have explored issues relevant to the implementation of that approach.

A paper on the *National project on learning centres* by Outer Eastern College of TAFE suggested that flexible delivery learning centres, 'owned' by a community or network, need to be developed to make flexible delivery more visible and accessible to individual and industry clients. The report proposed regional, state and national co-ordination of these learning centres to foster 'partnerships' (FDWP, February 1993).

Another project for the flexible delivery working party produced a guide to implementing flexible delivery. The guide gives practical advice on planning and managing flexible delivery, including market research, development of courses, staff development, program delivery and administration (FDWP, 1993).

A paper on the potential benefits of flexible delivery of training for industry, private and non-institutional providers by Peter Kearns and Associates, called *Towards new alliances for learning in industry*, found that a paradigm shift was occurring in firms committed to continuous improvement towards a 'continuous learning' approach. The report addressed manufacturing, hospitality, banking, retail, electronics, and information industries, and local government, police, social security and employment services. The paper recommends a three year program to address barriers to the extension of flexible delivery of education and training in industry, noting that this will promote the development of a more open training market (FDWP, March 1993).

The Philip Hudson Consortium has developed a *Cost-Benefit model for flexible delivery and operating manual* which provides a computer model (and operating manual) to allow public and private educational managers to calculate the costs and benefits of different combinations of delivery methods, in order to determine the most cost-effective mix. The model distinguishes measurable and intangible costs and benefits. The model is intended to be a planning tool to assist managers to develop more effective and creative delivery arrangements (FDWP, May 1993).

A paper on *Appropriate technologies for flexible delivery* by Queensland Distance Education College found that selection of learning technologies was typically very ad hoc, because of insufficient access to information about alternatives. The Open Learning Technology Corporation clearinghouse was seen as a necessary measure to reduce duplication and improve dissemination of information about learning technologies. Use of the technology was often sub-optimum, because too few staff were properly trained in its use (FDWP, March 1993).

A paper by NSW TAFE Planning and Evaluation Unit on *Physical facilities for flexible learning* found that the growing trend towards flexible design of new buildings since the 1980s meant that flexible

learning philosophies would not have a major new impact on building design. However, there are likely to be significant effects on the management of physical facilities as a result of flexible learning approaches, requiring strategies for improving access for a more diverse clientele, and a more strategic approach to using resources to meeting clients' needs in a context of rapid technological change, particularly in information technology (FDWP, July 1993).

An NCVER-commissioned study of *Strategic planning for open learning* by Mr Tom Goode compared the capital requirements and planning for the application of flexible learning at Joondalup campus (WA) and the Tea Tree Gully campus of the Torrens Valley Institute of Vocational Education (SA). Strategic planning was seen as being too readily the captive of the more easily quantifiable building requirements. As in the NSW TAFE study, Goode found that buildings are now generally being planned for flexible use over their economic life. Other planning is, however, too often undertaken in a segregated manner. There is a need for a more integrated strategic planning process which should be more inclusive of educational philosophy issues from the beginning. Tea Tree Gully and Joondalup both exhibited integrated strategic planning. Success in implementing flexible delivery requires an open and devolved management style, major staff development efforts, more information technology and more lead-time for the development of course materials.

In a paper to this year's NCVER July conference, Professor John Stevenson presented a provocative and critical review of cognitive psychology literature, drawing out its relevance for vocational education. He analysed technical expertise into the expert's capacity to co-ordinate specific procedures (how-to-do-it), conceptual understanding of a domain or field and strategic control or how-to-decide types of knowledge. Vocational education tends to emphasise specific procedures (how-to-do-it) knowledge, to the relative neglect of the self-management skills and personal empowerment embodied in conceptual understanding and strategic control types of knowledge. The need for research focussed on appropriate learning experiences to develop conceptual understanding and strategic control types of knowledge is a general observation in relation to vocational education, but one which becomes more acute in its implications in relation to flexible delivery and open learning (Stevenson, July 1993).

Current research

Continuing this theme in a more pragmatic, applied research vein, an NCVER-commissioned evaluation is examining the application of flexible learning approaches at the Tea Tree Gully campus of the Torrens Valley Institute of Vocational Education in SA in 1992 and 1993 academic years. The study is examining student performance in the context of staff and student perceptions and experiences of

the application of flexible learning, related to the Institute management's intentions. The work-in-progress indicates a relatively low level of student awareness of the flexible learning philosophy of Tea Tree Gully campus among students before they first enrolled, so that students needed to learn a new set of institutional expectations as part of their adjustment. This was also true of some staff. The report, which will be completed by May 1994, promises to be very interesting.

An in-house project at NCVER by Dr Josie Misko is critically reviewing the existing literature on flexible learning. It is also addressing the issue of learning styles in relation to flexible delivery. This report will be completed by November 1993.

DEET is also funding a current study by Peter Kearns and Associates of the implications of flexible delivery for disadvantaged clients of vocational education and training providers.

Research needed

Much of the research described here is applied research directed towards implementing flexible delivery. Further applied research is needed on various aspects of the flexible delivery of education and training, not the least of which is the management of the implementation of flexible delivery, taking further Goode's paper on *Strategic planning for open learning*. A proposed inhouse project on the implementation of the training reform agenda on TAFE managers at the College or Institute level, which is to be considered by the next meeting of the Board of NCVER could contribute to defining issues in this area.

Further research (both basic and applied) is also needed in relation to the relationship of flexible delivery of education and training to individual students' learning styles.

Learning styles encompass how individuals prefer to process information (cognitive style) what generally motivates them and their physiology (Keefe, 1979). Individuals' preferred methods for processing information have been found to affect the subjects they choose to study (Hudson, 1966; Shade, 1983; Witkin, 1976).

Learners also differ in whether they prefer to work with questions which have only one or one most accepted solution, or questions which are open ended (Guilford 1956).

How much an individual is influenced by the environment has also been found to affect students' subject choices (Witkin 1954, 1976; Shade, 1983).

Learners have also been found to differ in their preferences for relying either on detail which they can see, feel, hear, taste or touch, or information based on intuition or imaginative abstraction (Grecorc, 1979; Myers, 1987).

When students are given tests which are conducive to their preferred learning styles, they are quicker at reaching a solution (Salomon, 1981), and more likely to be more successful (Pask, 1976a, cited in Entwhistle and Ramsden, 1983; Riding and Buckle, 1989).

Personality differences, motivation and physiology are other characteristics which can affect how students learn. (Eysenck 1957; Myers, 1987; Lovell, 1981; Keefe, 1979)

One Australian study of Australian TAFE students has indicated that there are mismatches between how teachers perceive students' learning styles and students' own preferences which affect how instruction is delivered (Smith and Lindner 1986).

There is evidently significant scope for more research on how students' learning styles affect students' success in education and training. This work needs to be taken over into detailed applied research on how best to deliver education and training to students with different types of learning styles.

In principle, however, research on differences in learning styles essentially underlines the value of more flexible delivery of education and training, permitting more student choice to meet students' preferred learning styles. This may require the retention of access to relatively traditionalist structured approaches as well as access to more open approaches.

Further research is also needed on developing the conceptual understanding and strategic control types of knowledge which Stevenson suggests are not sufficiently well developed in most vocational education and training.

If flexible delivery is intended to assist in empowerment of learners through open learning, this cannot be fully effective if vocational education is too narrowly focussed on procedural knowledge.

That is to say, research policy should be directed towards more basic and applied research on adapting education and training teaching methods, materials and assessment instruments to different learning styles. Teaching methods, materials and assessment processes also need careful development to ensure that vocational education and training imparts enough conceptual understanding and strategic control types of knowledge to empower learners to become effective practitioners.

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Dr Josie Misko provided a draft of material reviewing literature on learning styles, which is being developed for an NCVER inhouse project on flexible delivery, and that draft is summarised in several paragraphs of this paper related to learning styles.

5 Non-TAFE or private providers D Lundberg

Introduction

The existing Australian training market could be described as a highly segmented one, with public and private providers of vocational education and training who have substantially different clientele. TAFE is the dominant public provider of vocational education and training services.

Neither 'private' nor 'non-TAFE' providers are entirely adequate terms. Community-based providers do not see themselves as private profit-oriented bodies but as public non-State institutions. Many other private providers of vocational education and training see 'non-TAFE' as making TAFE normative. This paper uses private providers since it is the term used in the National Framework for the Recognition of Training.

Private or non-TAFE providers can be classified as commercial, community-based, enterprise and industry providers.

In November 1990 a Special Ministerial Conference decided to promote the development of a more open national training market; that is, a more competitive market for education and training services. The training market decision evolved from the Deveson Report on *Training Costs of Award Restructuring*, which had highlighted the need for a more industry-responsive approach on the part of TAFE, and the assumption by the private sector of a greater role in training. The Finn and ESFC/Carmichael reports have also given encouragement to private providers.

Development of a more open training market can be seen as a process of moving gradually along a spectrum, using a number of policy instruments that collectively could make only an incremental impact on existing market distortions, such as encouragement of 'entrepreneurial' pursuit by TAFE colleges/institutes of fee-for-service income and joint ventures with private firms in order to acquire additional equipment.

Two policy instruments which are emerging possibilities are to place future recurrent funding through tendering or voucher schemes. For instance, the National Board of Employment, Education and Training in *Filling the Need* suggested that future growth in tertiary education should be allocated by tendering, on a program rather than a sectoral basis, to increase opportunities for competition between prospective providers. The federal opposition has advocated extensive use of vouchers. Tendering or voucher schemes could have potentially far-reaching impacts in terms of the development of more competition in the Australian training market (Lundberg, 1992).

At the same meeting in November 1990, ministers also agreed to adopt a national approach to the recognition of competencies, however they were acquired, and in March 1992 they adopted a National Framework for the Recognition of Training (NFROT). The framework includes provisions for recognition of prior learning, articulation and credit transfer, accreditation of courses, registration of private providers and mutual recognition of credentialling of qualifications. It is a structure within which it is hoped that closer co-operation will develop. Improvements in recognition arrangements for private providers (covered by the new National Framework) will promote freer competition between public and private providers.

While governments are seeking to encourage TAFE colleges/ institutes and private providers to compete, there is still too little information about, and research on, private or non-TAFE providers of vocational education and training services. This paper notes some of the research in hand and underway, and suggests areas in which further work might usefully be done to inform policy development and implementation.

NCVER is contributing to improving knowledge about private or non-TAFE providers by undertaking a series of core-grant funded in-house and/or commissioned projects on commercial, community-based, enterprise and industry providers.

Research completed

The first of three major private provider projects is an NCVER-commissioned study of commercial providers by OTFE researcher Mr Damon Anderson (1993, forthcoming). Anderson reviews the national policy context and profiles registered commercial providers in Victoria and Queensland. The organisations included in the case studies were; Stott's Commercial College, RMIT TAFE School of Business Studies, Australian College of Travel and Hospitality, (TAFE)College of Tourism and Hospitality, Computer Power Training Institute and Outer Eastern College of TAFE.

Commercial colleges were seen as having a quality image, being vocationally specific, with a practical workplace orientation, preferring flexible delivery of short, intensive courses, inculcating 'private sector standards' of presentation, with a strong emphasis on industry recognition and successful job placement. TAFE colleges were seen as educationally and socially broader in orientation, with a holistic approach offering more intra-program diversity and more choice of articulated courses and recognised pathways. TAFE has more depth of talent in teaching staff, more support services, greater emphasis on generic skills development, more innovative approaches to delivery and more proactive access and equity strategies. His report is being edited for publication by December.

The Office of Training and Further Education (OTFE) recently undertook a survey of private providers registered in Victoria.

Supplementing the private provider series, a recent publication by NCVER research fellow Ms Kate Barnett (1993) called *Swings and Roundabouts: the open training market and women's participation in TAFE* was prepared for the National Plan of Action for Women in TAFE. The paper overviews patterns of, and barriers to, women's participation in TAFE, assessing the likely impact of an increasingly open training market on fair access. *Swings and Roundabouts* concludes that action to address the barriers to women's participation must accompany the development of an open training market or women's participation will decline.

A report by Peter Kearns and Associates called *Towards new alliances for learning in industry* (1993) was prepared for the flexible delivery working party. The report recommended a national strategy to promote flexible delivery of training within industry, private and non-institutional providers to support the development of a 'continuous learning' approach within industry and other organisations. The report recognised that this would promote the development of a more open national training market.

Current research

The second in the series of NCVER commissioned case studies of private providers is an in-house NCVER study of community-based providers of vocational education and training by Ms Kate Barnett. Three of four case-studies have been completed for this project, and the fourth is about to commence. The case studies have been selected to reflect the diversity of community-based, non-profit providers. They include a neighbourhood house, a large-scale state-wide provider (the Workers' Education Association), a rural community education centre and a community college, located in South Australia, Victoria and New South Wales.

This report is to be completed by December 1993. Work-in-progress suggests that there is a high level of co-operation between the community providers studied and their local TAFE College.

With the exception of the neighbourhood house, it is clear that the training reform agenda has contributed to an emerging pattern of cooperation between TAFE and community providers, and growing competition between community and commercial providers in relation to the delivery of vocationally-oriented programs.

The third in the series of NCVER case studies of private providers is a large integrated study of industry and enterprise providers in Queensland, Victoria and SA which will be published in 1994. Ms Kate Barnett of NCVER is the project manager and she will undertake one industry and one enterprise project in SA. Professor Brian Hansford of Queensland University of Technology will lead a

Queensland team undertaking two case studies of industry providers. A Victorian researcher engaged by OTFE will undertake two case studies of enterprise providers.

Another project is being undertaken by Ms Kate Barnett of NCVER for DEET. It is a study of opportunities for women in community-based and commercial providers of vocational education and training.

The project will examine the attitudes of private or non-TAFE providers to equity issues, their willingness to address these issues and the incentives they require to do so. It will identify current provisions and assess their impact on women students. The project involves a comparison between the provisions of commercial or for-profit providers and those of community-based, non-profit providers.

These two types of providers have been selected for comparison because they offer some interesting contrasts and comparisons. Both provide off-the-job rather than work place training, but one is guided by a profit motive and the other is non-profit motivated. The adult and community education sector has a consumer population which is composed mainly of women, as are most of its staff. However, some commercial providers offer courses which are traditionally 'women's' courses—for example, hairdressing, childcare and business studies. Community-based providers are known to be highly accessible for women students, but it is not known how accessible commercial providers are to women, especially those offering courses which are studied predominantly by men.

The project is surveying fifteen commercial and fifteen community providers across all states and territories. Commercial providers have been selected on the basis of five areas of provision—business studies, nanny/childcare skills, computer studies, aviation and management studies. The first two areas have been identified as 'traditional' fields of study for women, and the fourth and fifth as non-traditional, although management training is being accessed by an increasing number of women. Community providers have been selected to encompass the range of different types of providers and as much as possible, for their provision of training in the fields of child care, business studies, computer studies, and management. Aviation training is not provided in the adult and community education sector.

The project will also obtain information through structured interviews with individuals with special knowledge about community and commercial providers, and about women's access to education and training. Women students undertaking courses with some of the commercial and community providers sampled, will also provide information about their ability to access these courses and other provisions in the field of vocational education and training.

A further comparison will be drawn, from the perspective of course offerings, between the commercial and community providers sampled and TAFE provisions in the five subject areas studied.

The Vocational Education, Training and Employment Council (VETEC) in Queensland undertook a survey of private providers registered in that state late last year, and the data is being analysed with the expectation of a report being published in November-December 1993.

The federal Department of Employment, Education and Training (DEET) and the Australian Bureau of Statistics (ABS) have been working since 1992 on new and revised survey instruments which will throw new light on private providers of vocational education and training. New iterations of the 1989 Training Expenditure Survey of employers and the 1989 household surveys of Career Paths of the Trades and How Workers Get Their Training will be undertaken in 1995, with modified questions relating to private providers. (These surveys will contribute to an evaluation of the Training Guarantee program.) After a feasibility study completed in September 1992 was considered, since February 1993 DEET-ABS have been developing a survey instrument which is to be piloted in February 1994, to resolve basic issues including sample suitability. The previously mentioned NCVER-commissioned study by OTFE of commercial providers contributed qualitative information to the development of this instrument. If the pilot is satisfactory, the survey will be undertaken in full in February 1995, which is expected to produce useful data on commercial private providers to a 'by state' level.

The pilot projects for the Australian Vocational Certificate (AVC) system are developing many different arrangements between private providers, and between private providers and TAFE. In a number of States and Territories, public and private secondary schools are being registered as 'private providers' for NFROT purposes to participate in the AVC pilots as non-TAFE providers of vocational education and training. The Implementation Review of the AVC pilot projects (listed in DEET, 1993) is likely to have interesting implications for policy in relation to private providers.

Research needed

Effective policymaking in relation to private providers and open training market competition requires improved research on both elements.

Systematic national surveys of registered private providers should be a priority activity within the next few years, as state and territory registration bodies associated with the National Framework for Recognition of Training build up progressively better coverage of private providers.

Market forces and the value of NFROT recognition in marketing to clients should induce most private providers to register. Policy and research require more information about what types of course are provided to what types of students by what types of providers. More needs to be known about the operational arrangements of private providers. NCVER's qualitative case study research could also contribute to the development of appropriate quantitative survey instruments.

A study of the coverage of such registration could also be of policy interest, but methodologically difficult, because in effect it would be a study of how many private providers provide vocational education and training services without registering.

A study of the factors which have induced and sustain current market distortions in the provision of vocational education and training services could also be of policy interest. It cannot be assumed that market distortions are necessarily a bad thing. They may have benign or even beneficial social effects, but that is a matter that could be determined by explicit analysis of market distortions, their effects and the likely consequences (in equity as well as efficiency terms) of different means of changing them. This could give a considerable impetus to the development of a more open market for education and training services in Australia, as Ministers proposed in 1990.

Quality assurance arrangements for vocational education and training should become an increasing priority for research and policy development, partly because it has tended to be given inadequate attention and partly because the development of a more open training market makes the provision of better information to 'consumers' of such services a matter of growing importance. The alternative may be market failures and recriminations that may tend to damage reputations beyond those directly involved.

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